ITEA LVC Special Session on VV&A

Sarah Aust and Pat Munson

MDA M&S Verification, Validation, and Accreditation Program

Report Documentation Page

Form Approved
OMB No. 0704-0188

1. REPORT DATE	2. REPORT TYPE	3. DATES COVERED
JAN 2009		**00-00-2009 to 00-00-2009**

4. TITLE AND SUBTITLE	5a. CONTRACT NUMBER
MDA M&S Verification, Validation, and Accreditation Program	5b. GRANT NUMBER
	5c. PROGRAM ELEMENT NUMBER
6. AUTHOR(S)	5d. PROJECT NUMBER
	5e. TASK NUMBER
	5f. WORK UNIT NUMBER
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) **Missile Defense Agency,7100 Defense Pentagon,Washington,DC,20301-7100**	8. PERFORMING ORGANIZATION REPORT NUMBER
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)	10. SPONSOR/MONITOR'S ACRONYM(S)
	11. SPONSOR/MONITOR'S REPORT NUMBER(S)

12. DISTRIBUTION/AVAILABILITY STATEMENT
Approved for public release; distribution unlimited

13. SUPPLEMENTARY NOTES
Live-Virtual Constructive Conference, 12-15 Jan 2009, El Paso, TX

14. ABSTRACT

15. SUBJECT TERMS

16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT	18. NUMBER OF PAGES	19a. NAME OF RESPONSIBLE PERSON
a. REPORT	b. ABSTRACT	c. THIS PAGE			
unclassified	**unclassified**	**unclassified**	**Same as Report (SAR)**	**6**	

VV&A Special Session Purpose

- Leverage existing Government and Industry VV&A knowledge to improve MDA VV&A for T&E M&S
- Topics for Today's Session:
  - (1) The Referent; building the body of knowledge about the system under study to increase confidence in the validity of the M&S
  - (2) Acceptability Criteria; formulating the comparison points and M&S accuracy requirements
  - (3) Documentation; rolling up the right amount of historical and newly formulated information
- Additional discussion topic, time permitting: Validation Process Maturity Model (VPMM)

MDA Referent Challenges

- Testing of the BMDS is costly and highly constrained
  - Catch 22: not enough test data drives need for M&S
  - Not enough test data inhibits extensive validation
- How to leverage Ground Testing to the fullest extent to provide referent data
  - Ground tests are valuable analysis venues making it difficult to align configurations for M&S validation
  - Ground Tests are also expensive, requiring HWIL, planners, operators, etc.

Acceptability Criteria Issues

- **Building appropriate acceptability criteria requires extensive knowledge about the system**
  - **Another Catch 22: lack of confidence in system M&S makes sensitivity analysis unreliable**

Documentation Issues

- Documenting is time consuming, not in development critical path
  - Tends to be the first item cut with budget cuts
- Too much documentation, not focused on critical information, inhibits the amount of knowledge that can be conveyed
- Inconsistent document formats limits the ability to easily archive and retrieve historical knowledge

Establish MDA Validation Evaluation Framework Like the Validation Process Maturity Model (VPMM)